



CENTRAL PACIFIC HURRICANE CENTER TROPICAL CYCLONE REPORT

TROPICAL CYCLONES 1984

Central Pacific Hurricane Center

JULY 3 - 6, 1984 (TROPICAL DEPRESSION DOUGLAS)

Tropical Depression DOUGLAS entered the Central Pacific Hurricane Center's area of responsibility on July 3 near 18N 140W with sustained winds of 30 knots near its center. DOUGLAS, only a few days earlier, had been a powerful hurricane over the eastern North Pacific. The weakening tropical cyclone moved along a west northwest track and continued to lose strength. DOUGLAS's forward motion speed slowed to a crawl and it became nearly stationary near 21N 149W, about 500 miles east of Honolulu. The CPHC issued its last advisory on the dissipating depression on 1200Z July 6.

The remnant circulation was now embedded in the low level trade wind flow and carried west southwest toward the Islands of Maui and Hawaii on July 8 and 9. The remnants of DOUGLAS produced some welcome rainfall over parched areas of Maui and the Big Island of Hawaii. Rainfall amounts of 2 inches or more were reported over the dry slopes of both islands during this period.

1984: Tropical Depression Douglas					
Date/Time (UTC)	Latitude (N)	Longitude (W)	Pressure (mb)	Wind Speed (kt)	Stage/Notes
07/03/1800	18.0	140.2		30	Tropical Depression
07/04/0000	18.1	141.5		30	"

07/04/0600	18.4	142.7		25	"
07/04/1200	18.7	143.7		25	"
07/04/1800	19.1	144.8		25	"
07/05/0000	19.5	146.0		25	"
07/05/0600	19.7	146.5		25	"
07/05/1200	20.1	147.1		25	"
07/05/1800	20.3	147.6		25	"
07/06/0000	20.4	147.8		25	"
07/06/0600	20.5	148.0		25	"
07/06/1200	20.6	148.2		25	"

AUGUST 16-21, 1984 (HURRICANE KELI)

Hurricane KELI began as Tropical Depression ONE-C on August 16. The CPHC in Honolulu had been watching a disturbed area along the ITCZ to the South southeast of Hawaii for several days. The disturbance showed definite signs of organization and strengthening. Therefore, the first advisory on TD1C was issued by the CPHC at 1800Z on August 16 near 9N 150W. The depression developed rapidly to tropical storm strength and was named KELI 6 hours later by the CPHC.

KELI moved west at a rather low latitude between 9N and 11N while gaining strength and was upgraded to a hurricane at 180000Z near 11N 158W. KELI moved along a path, which took it well south of the Hawaiian Islands. However, KELI took aim at and was moving toward the tiny atoll of Johnston Island. A U.S. Air Force reconnaissance aircraft fixed KELI's position near 14N 169W at 200000Z as it was approaching Johnston Island and measured maximum sustained winds of 100 kt near the hurricane's center. About this time, a trough aloft was starting to make its presence felt on KELI as the upper reaches of its circulation were being pulled north toward Johnston Island. In the meantime, the trade winds carried the lower portion of the circulation toward the west. The shearing stresses were now causing KELI to weaken rapidly.

The closest point of approach to Johnston Island was about 70 miles to the Southwest at 201800Z. The lowest pressure reported at the Johnston Island weather station was 1009 millibars at 201500Z when KELI was directly south of the island and slightly more intense. Strongest winds reported were two gusts of 34 knots recorded between 202200Z and 202400Z. The center of KELI at this time was approximately 100 miles south of Johnston Island. The tide recorder on the island showed no unusual high water or surges. Rainfall totaled about 1 inch. No damage from wind or water was reported by personnel stationed on Johnston. The island's military commander had ordered an evacuation of all personnel to Honolulu as a precautionary measure.

KELI's low level circulation separated from under its upper circulation and started to move west after passing Johnston Island. The CPHC issued its final advisory on the rapidly dissipating cyclone late on the 21st near 18N 173W.

1984: Hurricane Keli					
Date/Time (UTC)	Latitude (N)	Longitude (W)	Pressure (mb)	Wind Speed (kt)	Stage/Notes
08/16/1800	9.3	150.7		30	Tropical Depression
08/17/0000	9.4	151.6		35	Tropical Storm
08/17/0600	9.7	152.8		45	"
08/17/1200	10.0	154.0		45	"
08/17/1800	10.5	156.0		60	"
08/18/0000	10.9	158.0		70	Hurricane Cat. 1
08/18/0600	11.4	159.7		75	"
08/18/1200	11.5	161.4		75	"
08/18/1800	11.8	163.1		80	"
08/19/0000	12.0	164.5		80	"
08/19/0600	12.3	165.7		80	"
08/19/1200	12.8	166.9		80	"
08/19/1800	13.4	168.0		85	Hurricane Cat. 2
08/20/0000	14.0	168.7		100	Hurricane Cat. 3
08/20/0600	14.7	169.3		100	"
08/20/1200	15.5	169.9		100	"
08/20/1800	16.0	170.4		100	"
08/21/0000	16.4	170.7		95	Hurricane Cat. 2
08/21/0600	16.8	171.1		40	Tropical Storm
08/21/1200	17.2	171.5		40	"

08/21/1800	17.6	172.4		40	"
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AUGUST 18-20, 1984 (TROPICAL STORM KENNA)

Tropical Storm KENNA moved into the CPHC area at about 181000Z near 12N 140W. Maximum sustained winds were estimated between 35 and 40 knots. U.S. Air Force reconnaissance aircraft flying into KENNA a few hours later estimated winds at 50 knots. KENNA, however, had the appearance of becoming quite disorganized in the satellite imagery as it began to slow its forward motion speed and drift west along 12N on August 19 and 20. KENNA was downgraded to a tropical depression at 210000Z and the last advisory was issued at 210600Z with the remnant circulation centered near 12N 148W.

The remains of KENNA now began to move in a more northwest direction toward the Big Island of Hawaii. Much appreciated rain drenched parts of the windward slopes of the Big Island on August 22 and 23 as the weak circulation center passed south of the island. Some sections of the windward districts of the Big Island measured rainfall amounts between 6 and 8 inches.

1984: Tropical Storm Kenna					
Date/Time (UTC)	Latitude (N)	Longitude (W)	Pressure (mb)	Wind Speed (kt)	Stage/Notes
08/18/1200	12.4	141.0		35	Tropical Storm
08/18/1800	12.1	142.5		50	"
08/19/0000	12.0	143.3		45	"
08/19/0600	12.0	144.3		45	"
08/19/1200	12.0	145.5		45	"
08/19/1800	12.1	146.0		45	"
08/20/0000	12.1	146.0		45	"
08/20/0600	12.2	146.4		45	"
08/20/1200	12.2	146.8		45	"
08/20/1800	12.2	147.2		35	"

AUGUST 26- SEPTEMBER 2, 1984 (TROPICAL STORM LALA)

Tropical Storm LALA crossed into the Central Pacific as Tropical Depression 14E at 2260400Z with maximum sustained winds estimated at 30 knots. TD14E moved west rather slowly, between 5 and 10 knots, along 11N until it neared 11N 145W on the 29th and then started to move on a

more northwesterly course. U.S. Air Force reconnaissance flew into the circulation on the 29th and found winds of tropical storm strength near 45 knots. Subsequently, the CPHC named the depression LALA as it was upgraded to tropical storm. LALA remained a tropical storm for a day or so before reverting back to a tropical depression near 15N 150W. At this time, LALA began to move along a more westerly track, which took the center of the weakening depression about 180 miles south of South Point, Hawaii at 011200Z. No effect from LALA was felt on the Big Island with respect to increases in wind or rainfall.

The CPHC issued its last advisory on T.D. LALA at 021800Z near 15N 165W. The remnants of the circulation passed about 100 miles south of Johnston Island at 031500Z. No noticeable effects were reported on the tiny atoll.

1984: Tropical Storm Lala					
Date/Time (UTC)	Latitude (N)	Longitude (W)	Pressure (mb)	Wind Speed (kt)	Stage/Notes
08/26/1200	11.4	141.4		30	Tropical Depression
08/26/1800	11.3	142.3		30	"
08/27/0000	11.3	142.9		30	"
08/27/0600	11.3	143.6		30	"
08/27/1200	11.3	144.2		30	"
08/27/1800	11.4	144.8		30	"
08/28/0000	11.5	145.4		30	"
08/28/0600	11.6	145.8		30	"
08/28/1200	11.7	146.2		30	"
08/28/1800	11.8	146.5		30	"
08/29/0000	12.0	146.8		30	"
08/29/0600	12.1	147.0		30	"
08/29/1200	12.3	147.3		30	"
08/29/1800	12.6	147.6		30	"
08/30/0000	12.8	148.0		40	Tropical Storm
08/30/0600	13.2	148.4		40	"

08/30/1200	13.5	148.6		40	"
08/30/1800	13.9	149.1		40	"
08/31/0000	14.3	149.3		30	Tropical Depression
08/31/0600	14.8	150.3		30	"
08/31/1200	15.4	151.4		30	"
08/31/1800	15.7	152.4		30	"
09/01/0000	15.8	153.4		30	"
09/01/0600	15.5	155.0		30	"
09/01/1200	15.2	156.5		30	"
09/01/1800	15.1	158.4		30	"
09/02/0000	15.2	160.0		30	"
09/02/0600	15.3	161.6		30	"
09/02/1200	15.3	163.1		30	"
09/02/1800	15.4	164.5		25	"

SEPTEMBER 3 - 5, 1984 (TROPICAL STORM MOKE)

Tropical Storm MOKE formed near the International Dateline near 28N on September 3. MOKE developed in an area of low pressure, which had been meandering in the vicinity of Midway Island for several weeks. Initially, the circulation, which became Tropical Storm MOKE, was a cold core system as evidenced by the relatively low temperatures aloft, as reported in the radiosonde observations from Midway Island.

An unusually high amplitude flow pattern had persisted over the North Pacific during the month of August with strong blocking action and associated cutoff lows.

It is difficult to pinpoint the exact time of tropical storm development in cases such as this when a cold core system is gradually transformed into a warm tropical one through the intense latent heat released in the deep convection over the warm waters in the area. The lack of adequate satellite coverage after the failure of the eastern GOES satellite and subsequent east movement of GOES-West made surveillance of the area less than ideal. September 3 appears to be the time that rapid intensification occurred and the first advisory was issued by the CPHC in Honolulu at 040000Z. Satellite imagery at this time showed an unusually well developed cyclone with even a slight hint of an eye. Several ships in the area had reported winds between 30 and 40 knots and pressures near 1000 millibars with heavy showers for about 24 hours. At Midway Island about 90 miles to

the east of the center, southerly winds gusted as high as 30 knots and pressures fell to 1005 millibars. Closer to the center at Kure Atoll, conditions were somewhat more extreme. Based on estimations using satellite imagery and the Dvorak technique, MOKE's maximum sustained winds were estimated at 45 knots.

MOKE moved on a north northeast course at 5 to 10 kt with little change in intensity on September 4. On the 5th, an upper trough, approaching from the northwest, caused shearing and rapid weakening. MOKE was classified as an extratropical storm near 34N 177W early on the 5th and the last advisory was issued at 051200Z. The CPHC issued 5 advisories on MOKE. However, when the system was considered cold core, gale warnings were carried in the high seas warnings and forecasts issued by the National Weather Service Forecast Office in Honolulu.

1984: Tropical Storm Moke					
Date/Time (UTC)	Latitude (N)	Longitude (W)	Pressure (mb)	Wind Speed (kt)	Stage/Notes
09/04/0600	29.2	178.6		45	Tropical Storm
09/04/1200	30.4	178.2		45	"
09/04/1800	31.4	177.9		35	"
09/05/0000	32.4	177.7		35	"
09/05/0600	33.4	177.4			Extra-tropical